

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DIETER GROITZSCH,
GERHARD SCHAUT, and BERNHARD KLEIN

Appeal 2008-1931
Application 09/807,508
Technology Center 1700

Decided: April 29, 2008

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting claims 11 through 15, 17 through 25, and 27 through 30 in the Office Action mailed May 31, 2006. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2006).

We affirm the decision of the Primary Examiner.

Claim 11 illustrates Appellants' invention of a perforated nonwoven fabric, and is representative of the claims on appeal:

11. A perforated nonwoven fabric, comprising:

interlaced continuous microfiber filaments having a titer in the range of 0.05 to 0.40 dtex, the microfiber filaments being composed of at least two thermoplastic polymers having different hydrophobicity and having one of a pie filament cross-section and a hollow pie filament cross-section, from which split filaments have been released, perforations being clearly formed and being free of split-fiber filaments;

wherein the perforated nonwoven fabric has a mass per unit area of 8 to 17 g/m²; and

wherein the perforated nonwoven fabric is impregnated with at least one surface-active agent, and

wherein the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent.

The Examiner relies upon the evidence in these references (Ans. 3):

Suzuki	4,840,829	Jun. 20, 1989
Cohen	5,112,690	May 12, 1992
Hills	5,162,074	Nov. 10, 1992
Gillespie	5,783,503	Jul. 21, 1998
Robles	6,004,306	Dec. 21, 1999

Appellants request review of the sole ground of rejection: claims 11 through 15, 17 through 25, and 27 through 30 under 35 U.S.C. § 103(a) as unpatentable over Suzuki in view of Hills and Gillespie, further in view of Cohen and Robles. App. Br. 5; Ans. 4.

Appellants argue the ground of rejection based on independent claims 11, 18, and 20 as a group. App. Br. in entirety. Thus, we decide this appeal based on claim 11 as representative of the independent claims. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

The principal issue in this appeal is whether the Examiner has carried the burden of establishing a prima facie case of obviousness in the ground of rejection advanced on appeal which turns on the issues addressed below.

The focus of the dispute between the parties is the limitations in claim 11 specifying the perforated nonwoven fabric, as characterized in the first two clauses of the claim, is impregnated to any extent with at least one of any manner of surfactant-active agent in an amount not to exceed 0.20 % by weight of the perforated nonwoven fabric. *See* App. Br., e.g., 5:27-30; Ans., e.g., 6:12-15. In considering the term “impregnated” in light of the Specification, *see, e.g., In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004), and cases cited therein; *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997), we find the same is used in describing the result of applying a surface-active agent to the perforated nonwoven fabric by “the conventional methods of full-bath impregnation.” Spec. 13:12-14, and 15:19-20; *see also* App. Br. 3:27-30. We further find the surface-active agent is added to the “topsheet surface” of the perforated nonwoven fabric as used in a hygiene product, “to ensure the rapid passage of body fluids” therethrough. In this respect, “[t]he dosing [of the surface-active agent] goes by the area of the individual holes and the total open area” of the perforated nonwoven fabric, and can be limited “to the immediate vicinity with respect to the hole periphery.” Spec., e.g., 6:9-27, and 11:17-29 and 31-34; *see also* 13:9-21. Thus, we interpret the term “impregnated” in context to include penetration of the surface of the perforated nonwoven fabric by the surface-active agent to any extent.

There is no dispute the disclosures of Suzuki, Hills, and Gillespie provide a perforated nonwoven fabric as specified in the first two clauses of the claim, including the hydrophobic fibers. We find Robles would have disclosed to one of ordinary skill in this art that nonwoven hydrophobic fiber fabric topsheet 24 of a hygiene product can be treated with a surface-active

agent to facilitate liquid transfer therethrough. The surface-active agent can be sprayed onto the surface of the fabric or the fabric can be immersed into the surface-active agent. Robles, e.g., col. 8, ll. 41-64. Robles does not disclose a surface-active agent application amount range.

We find that Cohen acknowledges it was known in the prior art to apply surface-active agents to liners of hygiene products made of hydrophobic materials by, among other things, passing the liner through a bath containing the surfactant or spraying the surface-active agent onto the fibrous porous web of the liner. Cohen does not acknowledge that a limitation on the amount of surface-active agent applied was recognized in the art other than the amount necessary to make the surfaces “wettable” to function as a liner. Cohen, col. 1, ll. 26-32 and 40-46, col. 1, l. 66 to col. 2, l. 7, and col. 2, ll. 21-32, 45-51 and 62-66.

Cohen would have disclosed to one of ordinary skill in this art a method of adhering to a porous web a surface-active agent and applying a corona discharge to the web material, wherein the surface-active agent is applied in the amount of at least about 0.05%, such as about 0.05% to about 3%, preferably 0.1% to about 0.4%, and more preferably about 0.2% to about 0.3%, by weight of the web material. Cohen, e.g., 5, l. 59 to col. 6, l. 18. In Cohen Example I, the web is “dipped into the solution” of the surface-active agent. Cohen col. 14, ll. 25-30. Cohen further discloses the method of adding a surface-active agent to the melt for forming the fibers, forming a porous web from the fibers, and applying a corona discharge to the web material. Cohen, e.g., col. 6, ll. 29-50. The porous web material can be made of hydrophobic fibers. Cohen, e.g., col. 7, ll. 39-44.

We determine the combined teachings of Suzuki, Hills, Gillespie, Cohen, and Robles, the scope of which we determined above, provide convincing evidence supporting the Examiner's case that the claimed invention encompassed by claim 11, as we interpreted this claim above, would have been prima facie obviousness to one of ordinary skill in the hygiene product fabrication arts familiar with the application of surface-active agents to perforated or otherwise porous hydrophobic fiber fabric used as a topsheet or liner for such products. We agree with the Examiner that this person would have applied a surface-active agent to the perforated hydrophobic fiber nonwoven web taught by the combined teachings of Suzuki, Hills, and Gillespie, following the teachings of Robles and Cohen in the reasonable expectation that the nonwoven fabric would be retained by the nonwoven web and facilitate liquid transfer therethrough, such that the web can function as a topsheet or liner for a hygiene product. Ans., e.g., 5-6 and 6-7. We further agree with the Examiner that one of ordinary skill in this art would have applied the surface-active agent to the nonwoven web by methods known in the art from Robles and Cohen, including immersing and spraying, and that the immersion method would have been reasonably expected by this person to result in a surface-active agent "impregnated" nonwoven web, as the term "impregnated" is used in the Specification. Ans., e.g., 6-7. Indeed, Robles and Cohen make clear that this person can apply the surface-active agent by immersion without the further step of corona treating the immersed web as disclosed by Cohen.

Furthermore, we agree with the Examiner that one of ordinary skill in this art following the teachings of Robles and Cohen would have applied the surface-active agent to the nonwoven web of Suzuki, Hills and Gillespie in

amounts that include the application range specified in claim 11. Ans. 6-8. Indeed, this person would have been armed with the knowledge in the art that spraying or immersing a hydrophobic fiber nonwoven web with or in a surface-active agent would enhance the use thereof as a topsheet or liner, and thus, would have reasonably recognized that the amount of the agent applied to the web is a result effective variable with respect to the transfer of liquid through the web. Thus, this person would have reasonably arrived at a workable or optimum range of amounts of the agent to be retained by the surface of the web to obtain the desired result with respect to the performance of the hygiene product by routine experimentation. *See, e.g., In re Aller*, 220 F.2d 454, 456-58 (CCPA 1955) (it is not inventive to discover by routine experimentation workable or optimum ranges for general conditions disclosed in the prior art). In this respect, neither Cohen nor Robles evinces any limitation on the amount of the surface-active agent applied by immersion, and Cohen discloses varying workable and optimum ranges for the application of a surface-active agent to a web by methods that include immersion followed by a corona treatment, as the Examiner points out. Ans. 6-8.

Accordingly, we are of the opinion that one of ordinary skill in this art routinely following the combined teachings of Suzuki, Hills, Gillespie, Cohen, and Robles would have reasonably arrived at the claimed invention encompassed by claim 11, including all of the limitations thereof, without recourse to Appellants' Specification. *See, e.g., KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1739 (2007) (a patent claiming a combination of elements known in the prior art is obvious if the improvement is no more than the predictable use of the prior art elements according to their

established functions); *In re Kahn*, 441 F.3d 977, 985-88, (Fed. Cir. 2006); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996) (“In this case, the reason to combine [the references] arose from the very nature of the subject matter involved, the size of the card intended to be enclosed.”); *In re Gorman*, 933 F.2d 982, 986-87 (Fed. Cir. 1991) (“The extent to which such suggestion [to select elements of various teachings in order to form the claimed invention] must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the applicant’s invention.”); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)(“[T]he test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985) (skill is presumed on the part of one of ordinary skill in the art); *In re Bozek*, 416 F.2d 1385, 1390 (CCPA 1969)(“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’”); *see also In re O’Farrell*, 853 F.2d 894, 903-04, (Fed. Cir. 1988) (“For obviousness under § 103, all that is required is a reasonable expectation of success.” (citations omitted)).

Upon reconsideration of the record as a whole in light of Appellants’ contentions, we are of the opinion that Appellants have not successfully rebutted the prima facie case. Appellants’ contentions do not persuade us of error in the Examiner’s position because of the methods disclosed by Cohen. App. Br. 6-8; Reply Br. unnumbered pages 2-4. Indeed, one of ordinary skill in this art would have had knowledge of applying the surface-active

agent to a web by methods other than those disclosed by Cohen, and thus, would have reasonably applied the agent by simply spraying or immersing the web. Cohen adds the corona treatment to attach the agent to the web fibers, which this person would have recognized as an optional further treatment step to the prior art methods. Thus, contrary to Appellants' contentions, the corona treatment is not necessary to applying the agent to the web and Cohen's disclosure thereof does not teach away from the use of other prior art application methods. *See, e.g., Kahn*, 441 F.3d at 990 ("A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994))); *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (prior art "disclosure does not criticize, discredit, or otherwise discourage the solution claimed"). In any event, a perforated nonwoven fabric prepared with the use of a corona treatment step following the application of the agent by spraying or immersing to impregnate the surface of the fibers, is not excluded by any limitation in claim 11. *See In re Self*, 671 F.2d 1344, 1348-349 (CCPA 1982).

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Suzuki, Hills, Gillespie, Cohen, and Robles with Appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 11 through 15, 17 through 25, and 27 through 30 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

Appeal 2008-1931
Application 09/807,508

The Primary Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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